Medulloblastoma is a pediatric brain tumor originating from the cerebellum. As many other cancers, it is a multi-stage disease caused by sequential mutations. I will discuss our recent work on the molecular and genetic mechanisms that generate cancer-initiating mutations in medulloblastoma, leading to the formation of pre-neoplastic lesions. Following this, I will then describe how these pre-cancerous lesions progress to advanced medulloblastoma.